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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,770	10/06/2008	Trent R. Northen	112624.00138	4189

26707 7590 08/10/2011  
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EXAMINER
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ROSENBERG, NANCY D

ART UNIT	PAPER NUMBER
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1783

NOTIFICATION DATE	DELIVERY MODE
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08/10/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pat-dept@quarles.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,770	<b>Applicant(s)</b> NORTHEN ET AL.	
	<b>Examiner</b> NANCY ROSENBERG	<b>Art Unit</b> 1783	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 21-29 is/are rejected.
- 7) ☒ Claim(s) 5, 12 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/9/2006</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I claims 1-13 and 21-29 in the reply filed on July 18, 2011 is acknowledged. The traversal is on the ground(s) that Okamoto et al. (US 6,548,020) does not disclose a plurality of microstructures having a plurality of reaction sites formed on the surface of the microstructure. Applicant argues Okamoto discloses a reaction site array having a plurality of reaction sites, each reaction site being composed of a first region having a first affinity and a second region having a second affinity, the second region being raised from the first region. Applicant further argues that each reaction site requires the first affinity region and second affinity region, so the reaction sites in Okamoto are not on a plurality of microstructures, but instead the reaction sites of Okamoto are located over the region formed by the combination of the projecting patterns and the base material. Thus, Okamoto does not disclose the special technical features of the claimed array and method of Groups I and II so there is unity of invention.

2. This is not found persuasive because Groups I and II do not possess special technical features. Okamoto discloses a reaction site array (abstract) which comprises a substrate and a plurality of three-dimensional microstructures formed on the substrate (Figure 1B and column 3, lines 36-42) where the microstructures are made with a polymer material (column 6, lines 1-3). Further, Okamoto discloses a plurality of reactive sites on the surface of the microstructures by stating that the reaction sites on the microstructures are a second region on the reaction site array with a second affinity

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(column 3, lines 27-35). Although Okamoto does disclose two regions of affinity, that is not proof against the projections having reaction sites on the surface of the projections. Each reaction site may be on the support and on the matrix raised from the support surface (Okamoto, column 3, lines 27-42); however, this does not prevent the reaction site being formed on the surface of the microstructure. Thus, Okamoto discloses all the technical features of instant claims 1 and 14, and there is not unity of invention between Groups I and II.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 14-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 18, 2011.

### ***Double Patenting***

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-3 and 5-7 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1, 2, 6-9 and 12 of copending Application No.

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11/917,406. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 4, 8-13 and 29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1, 2, 6-9 and 12 of copending Application No. 11/917,406. Although the conflicting claims are not identical, they are not patentably distinct from each other. Instant claim 4 recites "porous on a portion" which is covered by copending claim 7 which cites the polymer material as "porous on all or part". The difference in copending claim 1 and instant claim 8 is the microstructures being made with porous polymer material which is covered in copending application claim 7 and the difference in copending claim 1 and instant claim 29 is the microstructures being made with material which a genus of the polymer material in copending application claim 1. Otherwise the claims are identical.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Objections***

8. Claims 5, 12 and 26 are objected to because of the following informalities: "attached to ones of the reactive sites" should recite "attached to ones of the reactive sites". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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10. **Claims 2, 10 and 23** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. The term "increases surface area and density" in claims 2, 10 and 23 is a relative term which renders the claim indefinite. The term "increases surface area and density" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There is no way to determine from what the surface area and density increases.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-13 and 21-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (US 6,372,813 B1).

14. Regarding **claims 1, 3, 4, 8, 9, 11 and 29**, Johnson discloses solid supports and polymer hydrogels particularly polymer hydrogel arrays present on a solid support where the polymer hydrogels comprise reactive sites (abstract) where the hydrogel makes a three-dimensional structure (Figure 5 and column 5, lines 13-15) and where the hydrogel is porous (column 1, lines 56-60).

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15. Regarding **claims 2 and 10**, Johnson discloses the three-dimensional microstructure increasing the surface area and density of the reactive sites on the surface of the three-dimensional microstructures (Figure 5 and column 5, lines 13-15).
16. Regarding **claims 5, 6, 12 and 13**, Johnson discloses a plurality of chemical groups attached to the reactive sites where each chemical group includes at least one monomer (abstract, Figures 3-6, column 6 line 38 to column 7 line 67).
17. Regarding **claim 7**, Johnson discloses the solid support optionally containing microfluidics to transport micromolecules (column 6, lines 16-19).
18. Regarding **claims 21 and 23-25**, Johnson discloses solid supports and polymer hydrogels particularly polymer hydrogel arrays present on a solid support where the polymer hydrogels comprise reactive sites (abstract) where the hydrogel makes a three-dimensional structure (Figure 5 and column 5, lines 13-15) and porous (column 1, lines 56-60) and where each reactive site has a reactant molecule with a least one monomer (column 8 lines 52 to column 10 line 35).
19. Regarding **claim 22**, Johnson discloses the three-dimensional microstructure increasing the surface area and density of the reactive sites on the surface of the three-dimensional microstructures (Figure 5 and column 5, lines 13-15).
20. Regarding **claims 26 and 27**, Johnson discloses a plurality of chemical groups attached to the reactive sites where each chemical group includes at least one monomer (abstract, Figures 3-6, column 6 line 38 to column 7 line 67).
21. Regarding **claim 28**, Johnson discloses the solid support optionally containing microfluidics to transport micromolecules (column 6, lines 16-19).



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY ROSENBERG whose telephone number is (571)270-5772. The examiner can normally be reached on Monday through Thursday 8 am to 6 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. R./  
Examiner, Art Unit 1783

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 1783